

Streak Camera System for Measuring Fiber Bandwidth and  
Differential Mode Delay

FIELD OF THE INVENTION

The invention relates generally to optical measurements. In particular, the invention relates to methods and instrumentation for characterizing pulse broadening in optical fibers.

BACKGROUND ART

The signal capacity of an optical fiber communication system is limited by several fundamental effects, many of which involve the broadening of an optical pulse as it traverses a fiber from the transmitting to the receiving end. Most optical signals have a finite spectral width, that is, range of wavelengths constituting the optical pulse, and the speed of propagation on a fiber varies with wavelength. The wavelength dependence of the speed of light on a fiber is referred to as chromatic dispersion although intra-modal dispersion is a more accurate term. Intra-modal dispersion includes material dispersion and waveguide dispersion. Material dispersion is caused by the variation with wavelength of the optical constants of the materials constituting the optical fiber, particularly its core. Waveguide dispersion arises from the variation